REMARKS

The Final Office Action dated February 21, 2007 has been received and carefully considered. In this response, claims 10, 12, and 16-19 have been amended without prejudice or disclaimer. Claims 22 and 23 have been added. Support for the amendments may be found in the specification and drawings as originally filed. Reconsideration of the outstanding rejections in the present application is respectfully requested based on the following remarks, which address the Examiner's rejections in the same order put forth by the Examiner in the Final Office Action.

Rejections based on 35 U.S.C. § 101

Beginning at page 2 of the Final Office Action, claims 10 and 12-20 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. This rejection is hereby respectfully traversed with amendment.

§ 101 rejection of Claim 18

The Examiner rejects claim 18 as follows:

> Claim 18 recites "a computer readable storage medium encoded with control information causing a computer to perform the operations that increment . . . decrement . . . determine . . ." The claimed control information is not necessarily computer executable instruction(s). There is no structural and functional interrelationship between the control information and the rest of the computer to permit the control information' functionality to be realized. Claim 18 is, thus, nonstatutory.

> Additionally, since claim 18 includes a 101 judicial exception, claim 18 must be for a practical application of the judicial exception. As is, claim 18 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 18 is also non-statutory for this reason.

The rejection of claim 18 is traversed, however, in the interest of further prosecution claim 18 has been amended to recite "A computer readable storage medium encoded with computer executable instructions" as previously suggested by the Examiner. Furthermore, Claim 18 has been amended to recite instructions that filter based upon the coefficient set to determine a scaled pixel value and that output the scaled pixel value. Claim 18 is useful at least for filtering

and outputting a scaled pixel value, which is a practical application that produces a real world result, making claim 18 tangible. Lastly, it will be appreciated that using a set of coefficients to determine a scaled pixel value produces a concrete, i.e., repeatable, result. For at least these reasons, withdrawal of the rejection of claim 18 under § 101 is respectfully requested.

§ 101 rejection of Claim 16

The Examiner rejects claim 16 as follows:

> Claim 16 applies a computer program (control information) as part of a seemingly patentable apparatus, however, claim 16 in reality seeks patent protection for the computer program as evidenced by claim 18 in the abstract. Computer program per se is neither computer components nor statutory process. Thus, claim 16 is non-statutory.

> Additionally, since claim 16 includes a 101 judicial exception, claim 16 must be for a practical application of the judicial exception. As is, claim 16 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 16 is also non-statutory for this reason.

The rejection of claim 16 is traversed. Specifically, the Examiner's statement that claim 16 in reality seeks patent protection for a computer program is not understood in view of the fact that claim 16 is an apparatus claim in means plus function form. Further clarification as to how "claim 18 in the abstract" evidences that claim 16 seeks patent protection for a computer program is respectfully requested. However, the interest of further prosecution claim 16 has been amended to recite additional means to provide additional useful, tangible, and concrete results. For at least these reasons, withdrawal of the rejection of claim 16 under § 101 is respectfully requested.

§ 101 rejection of Claim 17

The Examiner rejects claim 17 as follows: "Claim 17 is non-statutory for the same reasons discussed above."

The rejection of claim 17 is traversed. Specifically, the Examiner's assertion that claim 17 in reality seeks patent protection for a computer program is not understood in view of the fact that claim 17 is tied to a particular machine. However, the interest of further prosecution claim

17 has been amended in a manner similar to claim 16 to recite a system that filters and outputs a scaled pixel value. Claim 17 is therefore useful at least for filtering and outputting a scaled pixel value, which is tangible in that outputting a scaled pixel is represents a tangible real world result. Lastly, it will be appreciated that using a set of coefficients to determine a scaled pixel value produces a concrete, i.e., repeatable, result. For at least these reasons, withdrawal of the rejection of claim 17 under § 101 is respectfully requested.

§ 101 rejection of Claim 10

The Examiner rejects claim 10 as follows:

> Claim 10 applies a computer program (control information) as part of a seemingly patentable method, however, claim 10 in reality seeks patent protection for the computer program as evidenced by claim 18 in the abstract. Computer program per se is neither computer components nor statutory process. Thus, claim 10 is non-statutory.

The rejection of claim 10 is traversed. Specifically, the Examiner's assertion that claim 10 "in reality seeks patent protection for the computer program as evidenced by claim 18 in the abstract" is not understood in view of the fact that claim 10 is a method claim. However, in the interest of further prosecution claim 10 has been amended to further recite filtering based upon the coefficient set to determine a scaled pixel value, and outputting the scaled pixel value from the data processor. Claim 10 is therefore useful at least for filtering and outputting a scaled pixel value, which is a practical application in that outputting a scaled pixel is recited. Lastly, it will be appreciated that using a set of coefficients to determine a scaled pixel value produces a concrete, i.e., repeatable, result. For at least these reasons, withdrawal of the rejection of claim 10 under § 101 is respectfully requested.

§ 101 rejection of Claims 12-15, 19, and 20

The rejection of claims 12-15 under § 101 have been overcome by virtue of their depending from claim 10. For at least the reasons previous discussed, withdrawal of the rejection of claims 12-15 under § 101 is respectfully requested.

None of the previous §101 rejections appear to apply to claim 19, in that claim 19 recites a useful, tangible, and concrete result. Specifically, claim 19 recites outputting each output pixel from a data processor. Withdrawal of the rejection under §101 is respectfully requested.

Rejections based on 35 U.S.C. § 112

At page 4 of the Office Action, claims 10 and 12-20 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner rejects these claims stating:

> For example, the base claim 10 recites "decrement, in response to the first adjusted value being greater than a second value, the adjusted value by one or **more times** the second value **indicative of** the number of output pixels in the scaling cycle". However, applicant's specification (See Paragraph 0027) only describes decrement the first adjusted value (CURRENT_PHASE) by the number of output pixels L. L is strictly equal to the number of output pixels, and it is not decremented by the second value indicative of the number of output pixels. As set forth in the claim 10, the second value is INDEFNITE because it is a function of the number of output pixels. At least because of the indefiniteness of the second value, the claim 10 is not enabled.
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> Moreover, the first adjusted value is decremented by the value of L, not two or more times of the value of L. From Fig. 4 of applicant's specification, Block 326 contains the recited step of decrementing, however, the current phase is decremented by one times the value L. The current phase may be decremented by two or more times the value L ONLY by repeating the other steps (See block 322 of Fig. 4) set forth in the claim 10 or by repeating the step in the block 324 of Fig. 4 and then block 326 of Fig. 4 which requires the step of decrementing to be repeated as the step requires "in response to the first adjusted value being; greater than a second value" as set forth in the block 324 of Fig. 4. Applicant's claim invention is thus not enabled because the essential steps for the scaling of an image are omitted at least for the reasons that applicant's claim limitation is over-simplified and is flawed at least for the reasons set forth in above.

Applicants traverse the Examiners rejection of claims 10, 16-18 under § 112, paragraph, since multiple iterations through the loop including block 326 of FIG. 4 does decrement the current phase by more than one time the value L. However, in the interest of furthering prosecution, claim 10 has been amended to recite decrementing the first adjusted value by the

second value one or more times, which is believed equivalent. Claim 16, 17, and 18 have been similarly amended. Withdrawal of their rejections based on 112, first paragraph, is respectfully requested.

The Examiner further rejects claim 10 under § 112 stating:

> Moreover, the claim 10 further recites "the first value <u>indicative of</u> a number of input pixels in the scaling cycle." However, the block 322 of Fig. 4 discloses the value M equal to the number of input pixels in the scaling cycle. M is a fixed number, as opposed to a function of a number of input pixels in the scaling cycle and is not a variable indicative of itself.
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> The claim 10 further recites "the second value indicative of a number of output pixels in the scaling cycle." However, the block 326 of Fig. 4 discloses the value L equal to the number of output pixels in the scaling cycle. L is a fixed number, as opposed to a function of a number of output pixels in the scaling cycle and is not a variable indicative of itself.

Claims 10 and 16-18 have been amended to replace the term "indicative of" with the term --equal to--. Therefore, withdrawal of the above-stated rejection of claims is respectfully requested.

The Examiner further rejects claim 10 under § 112 stating:

> Additionally, Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. "scaling an image at an output resolution", "a number of <u>filter</u> taps are needed to accommodate scaling" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).
>
> Scaling an image by filtering wherein filtering is a critical and essential element. However, nowhere in the claim 10 recites filtering. See for example Paragraph 0001 and 0019 of the applicant's specification. Although the coefficient set is recited, it is not related to the filtering, for example, the filter phases or filter taps.

The above rejection under § 112, first paragraph, is traversed. Claim 10 recites scaling based on a coefficient set. One skilled in the art would recognized that scaling through the use of coefficients is a type of filtering, such that no critical component is left out of claim 10. However, in the interest of furthering prosecution, claims 1, 16-18 have been amended

accordingly to explicitly recite filtering. Therefore, withdrawal of the rejection stated above of the claim is respectfully requested.

The Examiner further rejects claim 10 under § 112 stating:

> Moreover, the input resolution and output resolution are recited in the claim 10, it is not clear how they are related to the scaling an image set forth in the preamble of the claim. It is not clear how the input pixels and output pixels are related to the image set forth in the preamble of the claim 10. Nowhere in the body of the claim 10 recites "the image".

Claim 10 has been amended to remove the term "the image" from the preamble to remove any confusion with the body of claim 10. Withdrawal of the rejection stated above of claim 10 is respectfully requested.

The Examiner further rejects claim 10 under § 112 stating:

> Finally, a plurality of steps have been described for the method of scaling an image as shown in Fig. 3 and Fig. 4, these steps are not formulated in the method claim set forth in the claim 10. For example, the claim 10 omits the critical and essential element of determining S - "a predetermined amount" set forth in the claim. S is an incremental value determined by the number of output pixels and the number of available filter phases (See block 210 of Fig. 3), and thus cannot be said to be a predetermined amount in the method of scaling an image because the method of scaling an image comprises all of the steps in Figs. 3 and 4 and thus <u>S is not a predetermined amount in a method of scaling an image</u>. The predetermined amount for S is zero, rather than a positive integer, which is produced in the method of scaling an image.

Claim 10 recites determining an index value to access a coefficient set by right shifting the second adjusted value a predetermined amount. The Examiner argues that the predetermined amount "S", as illustrated at 312 of FIG. 4 is not predetermined. However, FIG. 2 of the specification illustrates a control word 62 having a variable S. Paragraph 19 of the specification states "[o]nce the control word variables are known, whether provided, or provided and calculated, as described above, the method described in FIG. 4 can be used to scale an image. The method of FIG. 4 is discussed with references to scaling in a horizontal dimension by implementing one or more scaling cycles. For example, sixteen scaling cycles are used to scale 720 pixels to 704 pixels, each scaling cycle generating 44 output pixels." Therefore, the method illustrated at FIG. 4 is used only after "S" is predetermined, either by being provided or by being

determined from provided information. Therefore, since the control word must be known prior to implementing the method of FIG. 4 "S" is predetermined. For at least this reason, rejection stated above under § 112 should be withdrawn.

The Examiner further rejects claim 10 under § 112 stating:

> Moreover, the claim 10 recites the claim limitation of "determining an index value to access a coefficient set by right shifting the second adjusted value a predetermined amount". However, the second adjusted value is a positive integer number and it is not the binary representation of the integer number. Applicant's specification describes right shifting the binary representation of the current phase (See block 312 of Fig. 4 and Paragraph 0020). CURRENT_PHASE is an integer number, rather than a binary representation. Thus, CURRENT_PHASE is not right shifted in the manner as claimed.

The Examiner's statement that the second adjusted value is a positive integer and not a binary representation of an integer number is not understood. Specifically, whether the second adjusted value is a positive integer number does not preclude it from also being a binary number. However, in the interest of furthering prosecution, Claim 10 has been amended to clarify that a binary representation of the second adjusted value is right shifted, as indicated at paragraph 20 of the specification. Claims 16-18 have been similarly amended. For at least this reason, rejections under § 112 stated above should be withdrawn.

The Examiner further rejects claim 19 under § 112 stating:

> The claim 19 further recites, *inter alia*, the claim limitation of "scaling each input pixel of the number of input pixels based on the selected N filter phases to obtain each output pixel of the number of output pixels". The claimed feature of N filter phases set forth a fixed number of N. However, the filter phases are not N (See Paragraph 0025), e.g., N = 11 (See Paragraph 0022 and 0024). N is the number of used phases (See paragraph 0022). The FILTER PHASE 4 is selected and the coefficients of the filter phase 4 are provided for the scaling of the image/pixel (See paragraph 0024), as opposed to the coefficients of the FILTER PHASE 11 or the selected 11 filter phases as claimed. Moreover, the claimed "selected N filter phases" does not make sense at all as the selection is related to selecting a filter phase and the associated coefficients used for scaling.

Claim 19 has been amended to replace the term "the selected N filter phases" with the antecedently correct term --the set of N filter phases--. As described in the specification, it is the set of N filter phases that is used to obtain the output pixels. Based upon the amendment herein, rejection of claim 19 under § 112 is respectfully requested.

The Examiner further rejects claims stating:

> Claims 10 and 11 -20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
>
> For example, the base claim 10 recites "incrementing a current phase location within a scaling cycle by **a first value** to obtain **a first adjusted value . . .** decrementing, in response to **the first adjusted value** being greater than **a second value,** the first adjusted value by one or more times the second variable . . .to obtain a second adjusted value". The claim limitation of "a first value <u>indicative of</u> a number of input pixels in the scaling cycle" renders "a first adjusted value" indefinite, which again renders "a second adjusted value" indefinite. The first value is **indicative of** a number of input pixels in the scaling cycle and thus is **a function** (indicative of) of the number of input resolution divided by GCD wherein the function provides a variable because such a function is uncertain, rendering the claim 10 indefinite. The claim 10 starts manipulating, "a first value" which is - **a function** of the input resolution divided by GCD - <u>indicative of</u> the number of input pixels, resulting in an indefinite number. The claim limitation of "a first adjusted value" is obtained based on "a first value",which again is another variable - as opposed to a definite number -a number that cannot be determined.

It appears that the Examiner is rejecting claim 10 based on the use of the term "indicative of", which somehow renders various terms indefinite. As previously indicated, in the interest of furthering prosecution, the term "indicative of" has been replaced with the term --equal to--, thereby overcoming the rejection. For at least this reason the above rejection of claims under § 112 is respectfully requested to be withdrawn.

The Examiner further rejects claims stating:

> Moreover, it is not clear whether the claim limitation of "a predetermined amount" set forth in line 16 of the claim refers to S wherein S takes either zero value or a positive integer value and thus it is uncertain what is the predetermined amount. Clarification is required.

The above rejection is unclear. The term "a predetermined amount" is antecedently proper. The Examiner's statement regarding "S" in the above rejection is unclear in that the term S does not appear in claim 10. For at least this reason, withdrawal of the rejection based upon the above remarks is respectfully requested.

Lastly, as discussed above, claim 19 has been amended to replace the term "selected N fielder phases" with the term --set of N filter phases--. Furthermore, it is noted that the number of input pixels is scaled based on the set of N filter phases, and not just one specific filter phase, to obtain the number of output pixels.

Conclusion

The Applicants respectfully submit that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account Number 50-1835.

Respectfully submitted,

/J. Gustav Larson/   April 24, 2007
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